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ARTICLE I.

USES OF THE OPHTHALMOSCOPE.

BY E. L. HOLMES, M. D.

(READ BEFORE THE COOK CO. MEDICAL SOCIETY.)

MR. PRESIDENT AND GENTLEMEN,—In performing the duty you have assigned me this evening, allow me to ask your attention to a brief examination of the *Uses of the Ophthalmoscope*.

I need not dwell upon the importance and beauty of such an organ as the eye. To any inquiring mind the anatomy and physiology of this organ, and the investigation of the laws by which we explain the wonderful phenomena of light, offer one of the most interesting fields of labor in the domain of science.

There is scarcely an organ in the body which has more claim upon the interested attention of the pathologist than the eye, for not only can he observe the *effects* of disease, as witnessed after death, but he can trace with his own eye during the life of the sufferer the *processes* of disease, which in other organs are ever hidden from the view.

Every improvement in the means of diagnosis, by which we are better enabled to understand the manifold diseases which

so often shroud the unfortunate in deepest darkness, must be welcomed by the pathologist, and much more by the practical physician, whose aim it is to prevent and cure such diseases.

The ophthalmoscope is comparatively of recent origin, and, as is the case with all new inventions, its merits have been thoroughly discussed by the most comprehensive minds of our profession.

It is certainly natural that any one, who has noticed how prone many have been to suggest new modes of treatment, to write books, to invent apparatus and improve upon instruments even of the simplest kind, who has visited some large museum of surgical and medical antiquities, and looked upon the infinite variety of appliances with the modifications they have received from physicians of every generation, should be disposed to question the utility of *any* invention, especially when he reflects how few of those of the past have stood the test of practical application.

But any one who has carefully examined the works of Graefe, Jaeger, Arlt and others, and who has had an opportunity to apply the ophthalmoscope himself, must be convinced of its great utility. A work upon the diseases of the eye, without a history and description of this instrument, as an aid to diagnosis, would be as incomplete as a work upon the diseases of the lungs without allusion to auscultation or percussion.

describing the ophthalmoscope, it would be perhaps well to consider for a moment why, in examining the posterior portions of the eye, the assistance of some such instrument becomes a necessity. We all well know it is impossible to trace the outline of any object in a room completely darkened, by placing the eye at a small aperture in the shutter, for the reason that all non-luminous bodies, to be seen, must receive light, in order that their images may be pictured upon the retina, by means of this light reflected from their surfaces. All that is necessary in examining an object in such a room is, by means of a simple reflector, to throw light either of the sun or from a strong burner upon the object and illuminate it, then, by placing the eye behind the reflector at a small opening through it, the examiner is able to see distinctly the object

before him. Were the eye a simple hollow sphere, nothing could be done with less difficulty, than to examine the retina by means of light thrown through the pupil, as, by means of light, thrown through the shutter into the room just supposed. But such is not the case: the eye is filled with refracting media; the crystalline lens is a powerful magnifier, and an attempt to look through it by means of a simple reflector, would be very much like looking through a microscope without regard to its focal distances. Hence, it becomes absolutely necessary in examining the retina, to have an instrument, furnished with lenses, so arranged, that their focal distance may be adapted to the focal distance of the crystalline lens.

The principles upon which all ophthalmoscopes are constructed are similar, and as the instrument, originally proposed by Helmholtz, has received a great number of modifications from Graefe, Jaeger, Reute, and, in fact, from nearly every oculist of celebrity, I will confine myself to the description of two varieties, one, by which we obtain an upright, and the other, by which we obtain an inverted image of the portion of the eye examined.

The former instrument consists of a plain or concave reflector, a couple of inches in diameter, surmounted upon a short straight handle. In the centre of this reflector is a small round aperture for the eye of the observer, immediately behind which opening is a small double concave lens. In examining an eye, it is necessary to sit directly in front of the patient in a darkened room, with a lamp giving a clear, steady flame, placed near the ear of the patient, so that the flame of the lamp, the eye of the patient, and the eye of the observer, shall fall in the same horizontal plane. By turning the reflector to a proper angle with the rays from the lamp, the light is thrown through the pupil, and by moving the instrument to and from the eye under examination, the requisite focal distance is found, when everything behind the crystalline lens may be seen magnified about twenty-four times.

The other instrument consists of a concave reflector, as in the former variety, without the concave lens behind the aperture in the centre; but in its stead, a strong double convex

glass is held very near the eye of the patient, in such a manner that the light from the lamp is reflected through this lens before entering the eye. This lens must of course be moved backwards and forwards till a distinct image of the portion of the eye examined is obtained. Examined in this way, the different portions of the retina are magnified four or five times. But the image of the retina is *inverted*; that is to say, the vessels of the upper portion of the retina appear as if in the lower portion, and *vice versa*.

An eye when illuminated by either of these methods without any reference to focal distances presents a clear, light yellowish disk, equal in size to the pupil. When, however, the lens is properly adjusted, a well-defined and beautiful picture of the retina, with its vessels and the entrance of the optic nerve, is obtained. The ground color of this picture is a beautiful yellowish red. The optic papilla, however, situated, as is well known, not directly opposite the pupil, but towards the nasal side of the eye, is seen as a well-defined disk of a fine light orange tint. The central artery and vein send their branches principally to the upper and lower portions of the retina, leaving the lateral portions almost destitute of vessels. It should be remembered, that in the human eye unmagnified, the entrance of the optic nerve is not more than a line or a line and a half in diameter; the veins and arteries are exceedingly minute, the former being somewhat larger and darker than the other.

A perfect representation of the posterior portion of the concave surface of the eye is most faithfully delineated in the fine work of Jaeger, *Beitraege zur Pathologie des Auges*.

The cause of the peculiar red color of the eye, as viewed by the ophthalmoscope, has been the matter of some discussion among the best authorities. The probability is that it depends almost entirely upon the pigment layer of the choroid, and not upon the quality of the light employed, nor upon the blood circulating in the substance of the retina.\*

\* The color of the posterior concavity of the eye in the white races, according to all authorities, is as above described.

My friend Dr. J. R. Lyman, of this city, has examined the eyes of two

To obtain a distinct view of the retina requires, on the part of most beginners, considerable practice; for not only does the cornea, being a good reflector, give a brilliant image of the lamp, which much disturbs the vision of the inexperienced, but the crystalline lens of the patient, in consequence of the delicate organization by which it accomodates itself to near or distant objects, is, with some persons, even when directed to fix their eyes upon a particular object, constantly throwing the portions of the eye behind it out of focus. The examiner is, therefore, obliged to move his ophthalmoscope either to or from the eye, as the case may require, to keep it in focus, a thing by no means so easily accomplished as one might at first imagine.

Before entering upon the details of the practical application of the ophthalmoscope in the diagnosis of disease, a few words need to be said regarding the cornea in certain abnormal conditions, and regarding the mode by which we locate the different diseases which come under our observation. It is true in diseases of this portion of the eye, the assistance of the ophthalmoscope is seldom required, for the simple reason that they are external and easily observed, still in one or two forms of disease the unaided eye is often scarcely able to determine their extent, which at once become very evident with the help of the ophthalmoscope. But this is not the principal point to which I wish to draw your attention.

One can readily perceive that any cicatrix or macula upon the cornea in front of the pupil, or upon either of the two convex surfaces of the crystalline lens, when any attempt is made to examine the deeper portions of the eye with the ophthalmoscope, must necessarily cast a shadow upon these portions, and it is sometimes difficult to decide which membrane is diseased unless we take advantage of a principle well known to astronomers in calculating the parallax of the planets.

Suppose for an instant, an obscuration upon the cornea, another upon the anterior, and a third upon the posterior surface of the crystalline lens, each one being situated directly in the antero-posterior axis of the eye. It is evident if the

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healthy negroes, and states that he found the color to be nearly black, thus showing the same development of pigment in the choroid coat as in the cutis.

eye of the observer be placed directly in a line with these points, they will appear as one obscuration; just as three lamps placed in a line with the axis of the eye appears like a single flame.

If, however, the observer moves his eye sideways, in either direction, so as to view the eye obliquely, the relative situation of these supposed obscurations will be changed, and one can decide with perfect confidence where the disease is situated. In viewing the spot upon the cornea from one side, it will cast its shadow upon the edge of the iris, situated upon the side opposite to the direction in which the observer moved. The spot upon the anterior surface of the lens, inasmuch as it practically lies not *behind* the iris, but in the very centre of the pupil, will always *appear* in the center of the pupil, let the observer view it from any direction he may choose. But the spot upon the posterior surface of the lens, as well as any object lying behind it, will appear to fall on moving the eye in either lateral direction, in a line with that portion of the iris lying on the same side to which the observer moves his eye.

The diseases of the refracting media of the eye, lying behind the iris, offer a most interesting though somewhat limited field for the application of the ophthalmoscope. From the fact that light thrown directly into the eye will usually contract the pupil, it is well, though by no means always necessary, to apply a few drops of the solution of atropine upon the conjunctiva, a few moments before the examination is commenced, simply to counteract the influence of the light.

The diseases of the lens are almost all included in the different species of cataract. We all well know that the subjective symptoms are peculiar, and that the practitioner is enabled with the unaided eye to diagnose the disease in its advanced stage, yet very frequently long before the patient suspects any change, or the physician can detect any obscuration with the usual means of diagnosis, the ophthalmoscope reveals the slowly forming cloud which is to shut out the precious light of heaven from the unfortunate sufferer. This is certainly a source of satisfaction to the practitioner; moreover, we should remember it not unfrequently happens, that synchronous with the origin

of the *lenticular* disease, another abnormal process is going on in the *retina* or *choroid*. The ophthalmoscope discloses the true condition of the different portions of the eye, shows the physician that the increasing loss of vision is not wholly due to the cataract, and also assists him in giving an enlightened and rational opinion regarding the probable result of a future operation. The appearance of the cataract, as seen by the ophthalmoscope, is often exceedingly beautiful. A description of the different varieties would be useless, since a glance at the plates Nos. II. and III. of Jaeger's larger work (*Beitraege*), and No. III. of the smaller one (*Staar und Staar Operationen*), will give a far better idea than any description.

The vitreous humor is liable to several abnormal conditions, which it is not only interesting but instructive to examine with the accuracy with which we view an object in the field of a microscope. The infiltration of blood in its various forms, the deposition of pigment cells, which are found not only fixed in different portions of the humor, but floating within it at every motion of the eye, the rare and singular appearance of cholesterine crystals, which are occasionally developed in the vitreous humors,—are all most beautifully opened to our vision by means of the instrument before us. Graefe, of Berlin, and others, report several cases of cysticercus in the vitreous humor of the human eye. Without the assistance of the ophthalmoscope, it would be quite impossible to give a diagnosis, from the simple subjective symptoms of the patient. With its aid we are able to trace the extent, form, color and mobility of all the objects just mentioned, and also to witness the motions of the singular entozoon, which sometimes so strangely finds its abode within the eye.

We now come to a numerous class of diseases, which claim the most careful attention of the practical oculist—the diseases of the retina and choroid, among the most grave to which the eye is subject.

Before examining the abnormal appearances produced by these diseases, allow me to direct your attention for a moment to the anatomy of the retina and choroid coat.

The retina, consisting of several lamina, is a transparent

membrane, varying in apparent color, according to the amount of blood it contains, or of the coloring matter deposited under it, is the first portion of the eye we observe behind the vitreous humor. Next in order is the pigmentum of the choroid, which consists of a layer of hexagonal cells, containing, according to the peculiarities of individuals, a greater or less amount of pigment. The other two lamina of the choroid are composed of a stroma, in which pass very freely the numerous veins and arteries, the most important, perhaps, of the eye; to the former of which, from their peculiar conformation, is given the term, "*venæ vorticoseæ*." The stroma of this layer is also provided with pigment cells, though in much less quantity than in the true pigment layer.

These facts being borne in mind, we shall be better able to understand the diseases we are about to examine.

Probably, the most frequent affection of the retina which we are able to detect by means of the ophthalmoscope, and which is found more or less among all classes of people, who employ their eyes to any extent upon small and near objects, is a slight congestion—"hyperæmia retinæ," as termed by Jaeger. This state of the retina is characterized particularly by a slight diminution of distinctness in the line of demarkation, between the circumference of the optic papilla and the surrounding portions of the retina, which, in perfect health, is like the papilla of plate I. of Jaeger's larger work. By comparing this plate with plates V. and IX., the changes to which I refer will be readily seen. If the congestion passes into the state of inflammation, we shall find the optic nerve almost wholly, if not entirely, obscured, and from it will be seen radiating innumerable, delicate, ill-defined lines, and many times a thin film will appear to rest upon the surface of the diseased retina. While these changes are going on, others, if possible, of a graver nature, often manifest themselves. Lymph is deposited either upon or under the retina, destroying its delicate texture, covering in many places the vessels; in fact, rendering them almost invisible. Under such circumstances, vision is many times wholly destroyed. These changes are beautifully illustrated in the last three plates of Jaeger. I would particu-

larly call your attention to plate No. XIII., representing a large deposit of lymph.

The disease known as dropsy of the choroid or hydrops sub-retina, in which the retina becomes separated from the choroid and floats upon the fluid beneath, although, in some cases, easily recognized by the unassisted eye, is nevertheless far better seen by the ophthalmoscope. The extent of the lesion of course varies. Occasionally, it embraces the whole lower hemisphere of the eye. Every motion of the eye throws this floating membrane into waves, which pass from one side of the globe to the other. Usually, the blood-vessels of this portion of the retina become atrophied, and finally appear as dark lines, as shown in plate IV., fig. XXIV., of Jaeger's smaller work.

From what we have already seen, there is no need of argument to demonstrate the utility of the ophthalmoscope in some of the rarer forms of disease; as, for instance, apoplexy of the retina, aneurism of the central artery and its branches, ossification or laceration of the retina.

Before leaving the retina, I wish to say a few words regarding a beautiful and singular *phenomenon*—the pulsation of the central artery and vein. This is an interesting and important subject, on account of its connection with the disease commonly known as glaucoma. It is not my purpose to enter upon any discussion regarding the nature of this disease, but simply to state that, according to those ophthalmologists, to whose accuracy of observation, acquired in a rich field of practical experience, we can most trust, the ophthalmoscope has revealed two new diagnostic signs—the pulsation of the vessels to which I have just alluded, and a peculiar prominence or projection forward of the optic papula, caused probably by a deposition of a yellowish blue and sometimes red exudation upon the central portion of the papilla, leaving but a narrow circle of the natural structure around it. The first mentioned symptom is of considerable importance, and seems to depend upon an unnatural fulness of the eye, causing an abnormal *pressure* upon the vessels, for, it is found, one can readily produce the same phenomenon of pulsation in the central artery and vein

of animals by pressing somewhat forcibly with one or more fingers upon the eye. In an eye affected with glaucoma in an advanced stage, this pulsation is spontaneous and constant; while, in the commencing stages, a *slight* pressure only is required from the finger to cause the artery and vein to pulsate. In health, the pressure of the contents of the eye outward is of course normal, and no pulsation is visible; but, in glaucoma, this pressure seems to be too great, from an *increase* in the quantity of fluids. Why pressure either from without, or from an increase of fluids within, should cause this pulsation, is still a subject of doubt. I am sorry I have no plate by which I can illustrate to you the peculiar appearance caused by deposition of lymph upon the optic papilla.

The choroid coat of the eye is the seat of numerous important affections. Graefe reports that out of a thousand cases of amblyopia or incipient amaurosis, 425 showed evident signs of disease in this membrane. Thus far we have examined those portions of the eye which are more or less transparent, and if the pigment coat of the choroid always remained in a normal condition, it would limit our researches with the ophthalmoscope. But the pigment layer itself is subject to disease. For some reason not altogether easy to explain, this lamina becomes absorbed, leaving the portions beneath perfectly visible. If we cannot explain this process satisfactorily, it may perhaps not appear quite so strange that the eye should be affected in this way, when we recollect how frequently, under certain circumstances, pigment cells are no longer deposited at the follicles of the hair, which therefore soon becomes grey. As regards the choroid, there seems often to be a *double* abnormal process in the *same* eye. For while we find in some portions of an eye the pigment absorbed faster than it is deposited, leaving, as I have just stated, the layers under it visible, in other portions the pigment is deposited faster than it is absorbed; here, of course, the pigment is found in larger quantities than normal, sometimes seeming to involve the *retina* and its vessels. It should be remarked, however, that these dark deposits are believed by some, and doubtless many times with reason, to be the coloring matter of extravasated blood.

The aspect of the posterior portion of the eye, after the pigmentum has been absorbed, is very peculiar. The vessels of the choroid are seen passing in graceful loops, anastomosing freely with each other, *beneath* the vein and artery of the retina, like very narrow bands, which, unlike the vessels of the retina, retain nearly the same width throughout their entire extent. The color of these vessels depends upon the amount of coloring matter yet remaining over them. Where the true pigment layer is wholly absorbed, their color is of a decided yellow cast; those which lie deeper in the stroma of the choroid, and are consequently covered with a certain amount of pigment, have a darker color. A fine example of these appearances is given in Jaeger's work, *plate VI.* Plate IX. of the same work gives a good idea of similar abnormal conditions, somewhat circumscribed in extent.

There remains but a single point to which I ask your consideration, the use of the ophthalmoscope in the diagnosis of staphyloma posticum. You are well aware that the cornea is liable to a diseased action, in consequence of which, it is rendered insufficient to resist the normal pressure of the contents of the eye, and ordinary staphyloma is the result. A similar process sometimes has its seat in the posterior portion of the membranous tunics of the eye, and they project posteriorly, as does the cornea anteriorly. This state of things is accompanied with a great degree of myopia, and according to Jaeger, where near-sightedness is *extreme*, approaching perhaps to amaurosis, staphyloma posticum to a greater or less degree is in numerous instances an accompanying evil. The probability, however, is, that the staphyloma increases the distance between the retina and crystalline lens. In order that the rays from an object in front of the eye may be brought to a focus on the retina, in the disease we are considering, they must be rendered less converging, which, of course, is only accomplished, when a lens is not employed, by bringing the object nearer the eye.

The peculiar appearance, considered by many as pathognomonic of the disease in its early state of development, is a change which occurs around the external portion of the optic

papula. I have no colored plate by which I can exhibit the eye as it appears in this disease. The color of the affected portion is similar to that of the papula itself; its form resembles that of a crescent, the concavity being placed in juxtaposition with the outer semi-circumference of the papula; sometimes the convexity of the crescent-shaped figure is elongated into a kind of ellipse.

Several theories have been devised to explain the origin, form and color of this pathological growth, but none of them seem without objection. The subject is a new one, and the relation between staphyloma posticum and the appearance just described, is still open to the investigation of the pathologist and practical physician.

Gentlemen, I have finished what I have to say upon the practical use of the ophthalmoscope. I am well aware how meagre and superficial my remarks have been. To discuss all the principles upon which the instrument is constructed, all the questions which naturally arise regarding the anatomy, physiology and pathology of the human eye, could by no means be accomplished within the limits of a single paper. I have, therefore, confined myself to a simple, practical statement of what the ophthalmoscope is capable. The field is a comparatively new one for the scientific observer, and there remains for him many obscure problems to solve.

An objection has been raised against the use of the ophthalmoscope, founded, however upon insufficient grounds. It is stated that light reflected so directly into an eye, especially if diseased, must exert a deleterious influence. Doubtless, in cases of severe inflammation, especially with marked photophobia, it would be imprudent to attempt to examine the eye with artificial light, and no wise practitioner would think of doing it, for the simple reason, that in such cases the ophthalmoscope could render little aid in giving a diagnosis. In all cases, in which the patient can without inconvenience bear the light of a common lamp held but a couple of feet from his eyes, no evil can follow. From what I have seen, in a large number of patients under the care of others, and in my own experience, I am convinced that it very rarely happens that a

patient experiences either pain or inconvenience when the above precaution is observed.

The ophthalmoscope is still imperfect. We need an instrument with a magnifying power sufficiently great to enable us to detect and examine with greater accuracy the pathological changes which we have briefly considered; for, it is found by experience, that the *subjective* symptoms do not always correspond to the objective symptoms as revealed by the ophthalmoscope. As, for instance, we may observe an apparently grave degree of congestion of the retina, or a partial absorption of the pigmentum, or a deposition of lymph, and yet the patient may suffer much less from troubled vision than another with comparatively few visible signs of disease.

Here is wide scope for the talent and acumen of the true observer. To detect symptoms is certainly one of the most important parts of the physician's duty; but it is a no less important duty to interpret correctly the symptoms as they appear, and in many cases of diseases of the eye, especially in those in which the ophthalmoscope is of any assistance to the physician, this is one of the most difficult tasks we have to perform.

As we look back, however, upon the past six or seven years, and consider the number of facts, interesting and important, which have been discovered, and the doubtful points that have been explained away, particularly by the German ophthalmologists, we can confidently look forward to still greater results in the future.

I can now only add—I thank you for your attention, and as regards this brief sketch of the subject, I trust it has not been altogether void of interest to you, and that, if it has contributed no novel truths, it has at least shown that the subject is worthy of the careful investigation of the practical and scientific observer.

## ARTICLE II.

DOES AIR ENTER THE UTERINE VEINS DURING LABOR, OR  
SHORTLY AFTER, AND CAUSE DEATH?

BY J. P. DE BRULER, M.D., ROCKPORT, IND.

As this is to some extent an open question, and at the same time a grave one, I submit the following cases which came under my observation, thinking they may have some bearing upon the subject. I regret that I am able to furnish nothing more than approximative testimony, no post mortem examination having been made in any of the cases.

CASE 1.—I was called to see Mrs. B., aged 36, of stout, muscular frame, who had usually enjoyed excellent health, on the night of April 21st, 1852, in labor with her first child. She had been complaining some three days, and during this time had been bled and moderately purged. I found her with regular pains, though rather feeble, and the os uteri dilated to the size of a dollar, and the membranes ruptured. My patient being cheerful, and feeling comparatively well, I left her for the night in care of her midwife. Called again in the morning about nine o'clock, found some progress, os more dilated, but not yet sufficiently so to admit of the passage of the child's head. At eleven o'clock, the pains were forcible, the vertex pressed upon the os uteri, which was yet thick, firm and unyielding. I now resolved to bleed to the point of obtaining the necessary relaxation, but, upon examining the state of the circulation, I found blood-letting totally inadmissible; indeed, I could not count her pulse, so rapid was the circulation. This very much astonished me, as up to that time I had not noticed any flagging. I now observed, for the first time, that she breathed rapidly, and had a wild, anxious countenance. My attention was of course anxiously directed to the progress of her labor, hoping that delivery might avert what seemed to me an impending fate. The very next pain astonished me, by bringing away a *gush of air from the uterus*. The report was loud, and I could distinctly feel the impulse. The egress of air recurred at almost every pain until the child was born, which occurred in about an hour. The report, I said, was loud—it

was truly so, and annoyed her and her friends exceedingly, they supposing it came from the rectum. I did not undeceive them, for fear of creating alarm. The child presented every appearance of having been dead several days. Large patches of cuticle were filled with foul and very offensive gases, the body being much distended.

I saw with pain that her respiration became more and more embarrassed, and her countenance wild and anxious. She was placed in bed, and a cordial and opiate administered. I then ran out myself to call in my friend, Dr. Crooks, who I knew to be near by. We returned immediately, but she did not live more than five minutes. There was no hemorrhage, and to be certain that there was none concealed, I passed my hand into the uterus, which was found firmly contracted, and contained a small clot of blood, probably two or three ounces.

CASE 2.—In 1842, I was called to see Mrs. R., in a premature labor. She supposed herself in the sixth month of her pregnancy. I found her with active bearing-down pains, the os well dilated, and the membranes tense. While engaged in ascertaining the presentation, a pain came on which ruptured the membranes, a considerable quantity of water was discharged, and the head came down to the inferior strait. Just then she cried out, "Raise me up, or I will faint." Some person near her head elevated it a little, when she became slightly convulsed, and died in less than one minute. Thinking that it was only syncope, I placed my finger upon the pulse, and found the artery pulsating with considerable firmness, which it continued to do for some moments after she ceased to breathe.

CASE 3.—Communicated by my partner, Dr. Crooks.—About ten o'clock P.M., of the 21st ultimo, called to see Mrs. P., aged 27; found her in labor with her first child; progressing naturally enough, with only the slight tardiness common to persons of her age. A healthy child was the result at one o'clock next morning. There seemed nothing uncommon during the labor, only a rather unusual intolerance to pain. Immediately after delivery, syncope, difficult respiration, flagging of the circulation, and most intolerable after-pains, supervened. Notwith-

standing the after-pains, I suspected hemorrhage, but, upon examination, found none of consequence. The uterus was firmly contracted. Gave opiates, and stayed with her two hours; left, thinking her better, but not without apprehension that something was wrong. About two o'clock, a renewal of the unpleasant symptoms occurred. Being absent from my office and engaged, I did not see her until nine o'clock P. M., when I found her much in the same condition above described; except, instead of after-pains, she had *universal* pain—thighs, bowels, region of the heart, and particularly severe in the shoulders, and with more frequent and alarming syncope. The pains were transitory—passing from place to place instantaneously. I again examined the condition of the womb, and found it firmly contracted, with no loss of blood since I left in the morning. She continued to grow worse, and died at ten o'clock. I will add, that when the placenta was expelled, I distinctly noticed a gush of air from the vagina, or at least that was the impression made upon my mind at the time, but it occurring but once, I cannot speak as positively to the fact as I could desire.

The above cases are not introduced for the purpose of proving that air ever enters the veins in labor, for it is manifest that nothing short of a post mortem proof could be positively relied on, but they are reported more for the purpose of attracting the attention of the profession to the subject. I now think if ever I am unfortunate enough to meet with another such case, I will try with all the influence I can bring to bear upon the subject to procure a post mortem examination. The cases all occurred in families who could not be induced to submit their friends to such an examination—a feeling that is too general in this country for the benefit of our profession, and one that every physician should exert himself to remove.

All of the cases may not have died from the cause above indicated. Indeed, none of them may; yet it occurs to me, that the symptoms and result, to some extent, favor the hypothesis. Especially does this seem to be true with case No. 1. She was a stout, robust woman, apparently enjoying excellent health up to her confinement, was able, during all her labor up

to the last hour, to walk about her room, which she persisted in doing, saying that it rested her. The failure of her strength was sudden, and to me unexpected. Her death could not be accounted for upon (to me) any other known principle. It could not have been from hemorrhage, for there was almost none, neither external nor concealed. And then we have the fact, that air or gases were in the uterus for some hours before delivery. About this I cannot be mistaken, for I both felt and heard it, at almost every pain, for an hour or more. Is it not reasonable that air could be forced into patent uterine veins during active contraction of the organ?

Upon case No. 2 I have no comments to make, only, that its suddenness made a strong impression upon me at the time. She had not, so far as I could ascertain, previously suffered from any organic disease of the heart, nor was she known to suffer from any disease at all. There had been some hemorrhage, but certainly not enough to cut any material figure in the case. Indeed, up to my arrival, no person supposed her in any danger whatever, and yet I do not think I had been to her bed two minutes before she died.

Case No. 3 enjoyed her usual good health up to her confinement; only that she had suffered from chill and fever a few weeks previously, which, however, did not reduce her much. Her death appears wholly unaccountable upon any other hypothesis than the one under consideration.

#### ARTICLE III.

##### POLYPIIFORM CONCRETIONS IN THE CAVITIES OF THE HEART, WITH A CASE.

BY P. A. ALLAIRE, M. D., AURORA, ILLINOIS.

The concretions found in the heart, commonly classed as polypi of that organ, have been usually divided into three kinds, viz: 1, Concretions of fibrine; 2, Concretions of lymph; and, 3, Concretions composed of lymph and fibrine. If a fourth variety is made, it must be by including that coagulum of blood which is formed either post-mortem or during the last moments

of life, and which is occasionally found coated with fibrine; but such are truly coagula, they illustrate the mode of death, and are not evidence of pre-existing disease.

1. *Concretions of fibrine, or unorganized*, are doubtless the most frequent, as they occur in those cases in which an impediment has existed to the circulation, as in various valvular and other non-inflammatory heart diseases, asthma, anaemia, and cases of sudden exhaustion as by hemorrhage. This concretion is of a straw color, semi-elastic, and is adherent, but not intimately to the columnæ carnæ and tendinous cords of the valves. *The fibrine in these concretions is mechanically separated from the blood*, a coagulum having been first formed in the heart. The size of these polypi is usually sufficient to greatly embarrass the circulation, yet life may continue a long time after such an occurrence; or if the concretion is not large, it may be, and doubtless often is, removed from the heart, though often the obstruction is sufficient to cause speedy death. I have known one case of this disease caused by post-partum hemorrhage, where, after two years' suffering, the recovery was complete. The symptoms were—a bellows murmur, feeble pulse, shortness of breath, and palpitation on exertion.

2. *Concretions of lymph or organized*. These are quite different in origin from the fibrinous kind, being a result of inflammation of the endocardium, a true deposit of coagulable lymph. They readily become organized, and are more intimately adherent to the columnæ carnæ, etc., than the first mentioned variety. Their size is usually not so great, hence they are not apt to be so speedily fatal. This form of concretion is supposed to be the origin of the warty and globular vegetations described by Laennec, and hence the cause of many of the chronic valvular and other obstructive diseases of the heart, which result in hypertrophy and dilatation of that organ. These polypi are of a lighter color than the first, more dense in structure, and organized, but unless seen early after their formation, no red vessels can be detected. The case about to be described was of this variety, and is remarkable for the large size of the concretions and the duration of the disease.

3. *Concretions of lymph and fibrine, or partially organized*.

The two former varieties are combined in this, the nucleus being lymph. The cause is the same as in the second variety; in reality, it is the second variety suddenly increased in severity, from the size of the polypus being augmented by some new embarrassment to the circulation, causing a deposit of fibrine on the pre-existing concretion, thus increasing the size often to that of the first kind.

None of the forms of polypi of the heart give rise to certain symptoms; diagnosis is, consequently, difficult. They may be inferred from the irregular, confused pulsations of the heart, the dyspnoea, the diminished supply of arterial blood, and, generally, the presence of more or less venous congestion. The symptoms are often irregular, or even ceasing for a time, owing to change in the position of the mass. No means are known by which these concretions can be removed or dissolved; the treatment becomes, therefore, merely palliative, as does, also, the treatment for the secondary affections of the liver, lungs, etc., resulting from the venous congestion of those organs in this and nearly all other cardiac affections of a chronic character.

CASE.—Helen P. was first seen by me as a patient, December 29th, 1857. She is now eleven years old, of healthy parents, and well developed; formerly an active child; she is now very quiet, moving about with great care, frequently complaining of a general feeling of uneasiness in the left side of the chest. This sensation commenced about a year since, and has gradually increased. Five years ago, she had an attack of disease called then lung fever; there was active fever, cough, and pain in the left side. "From this she never seemed entirely to recover." There was constant dyspnoea and palpitation, increased on making active exertion; also, frequent attacks called asthma, attended with fever, and terminating in free mucous expectorations. These have been usually of short duration, leaving only the usual dyspnoea and palpitation. Still, the child grew finely, and was supposed by physician and parents to be only asthmatic. Within the past year she has had fewer asthmatic attacks, and has been more quiet and more confined to the house; the last attack, six months since,

she recovered from as usual. Her indisposition to make exertion has greatly increased within the last few weeks, until now, when she scarcely makes any attempt to move about.

*Present condition.*—No emaciation, face pale and slightly puffy, lips a little blue, slight œdema of feet and hands, urine scanty, bowels regular and stools healthy, slight cough, and mucous expectoration; respiration, thirty per minute. The action of the heart elevates the ribs at each pulsation, and is 100 to 105 in the minute. *No pulsation can be felt at either wrist*, and it is quite feeble in the carotids. The jugulars are not distended. On placing the hand over the heart, there is a peculiar, indistinct, undulating motion felt, and it is even difficult to count thus the heart's contractions.

The extent of cardiac dulness is doubled. On applying the ear to the region of the heart, no natural sound can be heard, but there is an imperfect gurgling and some approach to a bellows murmur, but nothing distinct. The pulsations can be heard in every part of the chest. The respiration is peurile in both lungs, with slight mucous rhonchus. No examination was made at this time of the abdominal organs. On informing the parents that the case was one of heart disease, they were much surprised, having hitherto regarded the child as only asthmatic. No treatment was at this time instituted, and two days after, viz: December 31st, in the evening, I was requested to see Helen P. again. She had had about noon a slight chill, soon followed by high fever; dyspnoea and palpitation increased; cough dry, with pain in left side; headache, no costiveness, tongue clean. No pulse can be felt at the wrist; pulsations of heart 140, and respiration 43 per minute; slight crepitant rale in left lung; right lung as usual. On inspection, the chest seems more rounded than in health, and the intercostal spaces widened; percussion gives a very clear sound, except over the heart; enlargement of liver is distinct, and upper part of abdomen is unusually full. Regarding the present attack as one of acute bronchitis, the following prescription was made:

R. Ant. et potaas. tart., gr. ij	Tinct. opii,	3j	
Pulv. ipecac.,	gr. x	Water,	3ij
Mix, and give every two hours all the patient will bear with-			

out vomiting. Hot fomentations to be wrapped around the chest.

*January 1st.*—Respiration and pulsation of heart reduced in frequency; skin moist; slight expectoration; has had some sleep; countenance less anxious; continue same treatment.

*January 2d.*—Improved in every respect; continue same.

*January 3d.*—No fever or pain; much cough and gastric irritation; tongue covered with yellowish coat; frequent vomiting; discontinue antim. and ipecac., and give calomel gr. ss. and Dover's powder gr. iij. every four hours; stimulating liniment to chest and abdomen.

*January 4th.*—Gastric irritation slight; rests well; no appetite; cough less; pulse 100, cannot be felt at wrist; cannot take the recumbent position to-day; evidence of a little fluid in abdomen; feet more œdematos. R Continue cal. and Dover's powd., and give cinchonia gr. j. in a little wine every four hours.

*January 5th.*—Much the same; gave a mild purgative, and continued the same remedies.

*January 6th.*—Purgative acted mildly; seems improved; can lie down, and takes nourishment better; still vomits occasionally; continue same treatment.

*January 7th, morning.*—Is more comfortable; strength improved; rested well last night; vomits less, and appetite improved; coughs but little; respiration as easy and comfortable as at any time for some months past; distinguished, for a few moments, a very feeble pulsation at the wrist; discontinue cal. and Dover's powd. and give

R Cinchonia, gr. v.

Tinct. valerian.

Spt. aether. nit., aa. 5ss.

Mix; give half a teaspoonful every three hours in water, and continue liniment to chest. Patient remained without apparent change until 2 o'clock P. M., when she rose up suddenly in bed and fell back—dying in a few moments, without apparent pain or convulsion.

*Autopsy, forty hours after death.*—Pericardium healthy. Heart more than twice as large as the fist of the individual,

but its proportions were well maintained throughout. The valves were all healthy. In the left ventricle, and attached firmly to the columnæ carnae and chordæ tendina, was a dense light colored and evidently organized polypiform concretion, which extended into the aorta about one inch, and with a small coagula attached, quite filled it. This concretion would occupy nearly the bulk of a fluid ounce, was about two inches in length, half that measure in width, and one-half inch thick. The sides were irregular, as was also their thickness. Its only attachment was that above mentioned. In the right ventricle was found a concretion similarly but less firmly attached, which extended into and nearly filled the right auricle. This formation was a little larger than the other, less dense, of a yellowish hue, in parts reddish, and here and there striated as if by the rudiments of small vessels. The left ventricle was filled with fluid blood and coagula; the right ventricle was empty. The lungs were free from adhesions, and voluminous; surface a little uneven, and they did not collapse on opening the chest; on being cut into, air escaped with frothy fluid. The air vesicles were enlarged. I regret that the bronchii and their mucous lining were not examined. The liver was at least double the size of the healthy organ, rather more dense in structure than usual; otherwise natural. Gall bladder full and healthy. Spleen natural. Kidneys indurated, lobulated, and slightly diminished in size. On making a section of these organs, the structure seemed natural, except a general shrunken appearance; their fibrous coat could be stripped off with ease, and then the surface of the cortical substance beneath was found studded with firm grayish granules, which were gradually lost in the indurated tissues beneath. No other organs were examined. A small quantity of straw-colored fluid was found in the abdominal cavity. No test was made for albuminous urine.

## ARTICLE IV.

## ENLARGEMENT OF THE SPLEEN.

BY J. W. CROOKS, M.D., ROCKPORT, INDIANA.

I have reason to believe that there is not that professional importance attached to the varied derangement of this organ that the subject justly demands. The spleen is liable to various forms of disease; among the most frequent is, that which is thought to be a sequel to our western autumnal remitting and intermitting fevers. In malarious districts, the observing practitioner has not failed to notice the fact, that derangements of this organ play a conspicuous part in most maladies to which his attention is solicited. The position and close relation of the spleen to important organs, render any manifest deviation from the standard of health quite improbable, without affecting more or less their normal functions. True, the special function of the spleen is not even *probably* understood; yet, its diseased condition is soon rendered apparent by manifest disturbances of a special and general character. Though, as to itself, it does seem that, if it had a territorial area in proportion to its varied mutations, it might carry on its mysterious workings with but little disturbance to the general health. But its relative situation is such, that upon any considerable increase of size, its encroachment upon neighboring organs cannot be borne with impunity; hence, the evil effects of enlarged spleen are more apparent upon adjacent parts than upon its own substance. This fact, doubtless, arises from the nature of its anatomical structure. Being composed almost entirely of blood-vessels, and but sparingly supplied with nerves, it yields to any amount of distention, with little sensibility to its own body; but when in a state of hypertrophy or engorgement with induration, it cannot fail to produce both functional and organic disturbances, often of a serious character. I have witnessed instances of its materially impeding respiration by its encroachment upon the diaphragm; indigestion, and other derangements of the stomach, from the same cause; and from its weight and compression upon the bowels, constipation and difficult defeca-

tion. The great vessels may be compressed too, causing an unequal distribution of the blood—some organs receiving too much, others not enough—thus giving rise to various forms of internal congestions, dropsical effusions, with all their kindred affections, resulting from impediments in the circulation.

Though enlarged spleen is often a sequel to our western remitting and intermitting fevers, it is by no means an invariable attendant. And though ague frequently precedes the development of the condition in question, it often arises without being accompanied with any form of fever. The idea that the cold stage of intermittents is the principal and predominant cause of "ague cake," is one that I respectfully decline subscribing to. I have witnessed too many cases of enlarged spleen, in no way directly connected with any variety or form of fever, not to apprehend some more potent agency in their production. And I would rather believe, that marsh miasm acts, firstly, upon the spleen; secondly, upon the system, in causing chill and fever; that the chill is the result of the engorged spleen, than that the affection of the spleen the result of the chill. That the spleen is peculiarly susceptible to the influence of malaria, more so than any other organ, the liver not excepted, I am fully satisfied. Congestions and enlargements of the body are often the first indications we have of an approaching chill and fever; and, in fact, this condition may exist for considerable time totally unawares to the patient, and unattended with either chill or fever. Its great want of sensibility disqualifies it from sounding the first note of alarm, when its own individual substance is the lone theatre of disease. In malarious localities, patients frequently present themselves, complaining of a dull sort of uneasiness in the left hypochondrium, extending to the precordial region—not having suffered from chills or any form of fever, have no suspicion of enlarged spleen, but, on examination, this latter condition is found to be the true source of all the trouble. And it is not uncommon for this state of affairs to continue for many months, or even years, alternately diminishing and increasing, but never entirely disappearing, and the patient at the same time totally exempt from chill and fever.

Then, when we take into consideration the fact, that an enlargement of the spleen often occurs and persists for months and for years without ague, and that it as often precedes the febrile attack when they are connected at all, as it seems to follow as a sequel, it is not unreasonable to conclude, that derangements of the spleen have as much to do in producing ague as the latter has in producing the former. Then, that character of enlargement of the spleen, known as "ague cake," I am disposed to regard as a true idiopathic affection, incited and maintained by a direct miasmal influence—and the principal function of the spleen to be a sort of depurator to the system, a sort of cesspool or reservoir for the noxious properties of the system, which, by process of time and some peculiar action, it neutralizes the poisonous influence. There is nothing improbable, but, on the other hand, an apparent wise provision of nature, that the system should be provided with a diverticulum and a regenerating laboratory, through which deleterious agents might pass, modified, and rendered innoxious to the general economy. That it possesses these qualities to a considerable extent, and often, as it were, flies to the rescue of the more vital organs, is neither unreasonable nor scarcely doubtful.

*Treatment.*—That calomel acts specifically upon the glandular system in general, and more particularly the liver, we have but little if any doubt. And this agent was once the Samson remedy for all forms of hepatic and biliary derangements of every character. Calomel, portal congestion, and black bile, were "all the go." And the spleen, too, though deprived of most of the characteristics of a gland, having no excretory duct through which vitiated matter could pass, was required to perform similar functions with the liver.

Then, have we anything that will act specifically on the spleen when in the condition under consideration? I answer we have. For that form of disease, resulting from the influence of malaria, we have what I regard an infallible remedy in the sulph. quinine. By its specific and direct influence upon the spleen, through the medium of the blood, it neutralizes the poisonous effects of malaria, and at once removes the whole

cause of the trouble. The effects of quinine in neutralizing, or otherwise counteracting the effects of this source of disease, is perfectly apparent in the treatment of ague and fever, as well as other biliary derangements of the system. We do not give calomel now-a-days for the purpose of arresting bilious fever; nor do we give mercury in the treatment of ague, or, at least, very rarely, and I venture to say, never any more with reference to its mercurial effect. The condition of the spleen in question being the result of miasmal influence, quinine is the remedy, as its known effects upon this class of morbid agents are now placed beyond question. With this remedy alone, I treat chill and fever and enlargements of the spleen, premising purgation only with reference to the condition of the bowels. And I here bear testimony to the curative effects of quinine in all those forms of summer and autumnal *diarrhœa* so prevalent amongst children, more particularly at those seasons of the year. The constitution of a child seems to be such, that it cannot tolerate the accumulative influence of malaria; it will soon succumb under some form of the terrific nervous affections, or exhaust itself in the effort to get rid of the pernicious effects of the poison by diarrhœa. Whereas, by the timely and proper use of quinine, and the restraining influence of opiates, many cases may be cured that would prove fatal under the old calomel practice. I regard its modus operandi, in these forms of diseased action, the same as upon the spleen, by at once acting upon the malaria in the system, neutralizing and destroying its effects. About ten grains of quinine daily—grs. iii. at a dose—for from two to six weeks, I have found fully adequate to the relief of the most obstinate and protracted enlargement of the spleen.

I cannot refrain from venturing the suspicion, that actual hepatitis and other formidable diseases of both liver and spleen were more common, and much more ungovernable, under the winged god, Mercury, than at the present time, when many of the profession begin to suspect him for raising his magic wand to

"Draw bodies down to hollow graves,  
And send them off on Stygian waves."

## DOCTOR BACON'S CASE.

Died, Feb. 17th, 1858, at his residence, of Bright's disease, MILTON BACON, M.D.,  
of Lake County, Illinois, aged 43 years.

The profession, and the whole neighborhood of Dr. Bacon's residence, have sustained an irreparable loss in his death. His education was not *finished* in the college hall, for, although in early life he improved to the utmost of his abilities the ample advantages afforded by the best medical colleges, and graduated with much credit, he has been progressive in his attainments, and when he died was fully up with the improvement of the present time in the profession. A man of unexceptionable moral character and ethical propriety, his consultation practice was large, and all his advice was fraught with that soundness of judgment and discriminating acuteness which vast professional knowledge and extensive experience only can insure; while the confidence inspired by his conscientious and earnest demeanor, was of great service to his patients and medical associates. His friends and bereaved family can but derive consolation in the general condolence of his entire acquaintance. The mysterious working of Providence is never more profound and inscrutable than in such dispensations as the removal of men like Dr. Bacon, whose mental maturity, fulness of scientific attainments and ripeness of experience, the fruition of a long life of laborious and severe toil, render them invaluable to suffering humanity.

By request of his medical men, I subjoin the following relation of his case.

W. H. BYFORD.

I was called to see Dr. Bacon, in consultation with Drs. Cory and Bullock, of Waukegan. The history, as related to me by himself, Mrs. B., and the medical gentlemen present, was as follows: He had been practising medicine for about twenty years in the neighborhood where he then lived. It is a high, broken, healthy lake coast, six miles north-west from Waukegan. Up to July last, he had enjoyed uninterrupted good health, and was regarded as one of the most hale members of the medical profession in that vicinity. Rather short in stature, portly, in fact, corpulent in form, he was also jocund

and lively in spirit. One peculiarity, which is said to have been observed by him since his earliest recollection, was an irregularity of the pulse—an omission of about one beat in twenty—while the heart was acting with regularity. He also assured me, that before July there was no irregularity of the heart's action of which he was conscious. For a short time prior to July, or early in the summer of 1857, he noticed slight œdema of the extremities, but it was evanescent in duration and partial in extent, so that it was not a source of much uneasiness to him. In July, while engaged in the active discharge of his professional duties, he was attacked with what was considered sun-stroke, from which he gradually recovered, with a slight paralysis of the whole left side as a sequel. This paralysis pretty rapidly declined, and in the course of a month seemed entirely gone, but returned in October for a few weeks. So soon as he had recovered from the sun-stroke, he was afflicted with indigestion, severe pain in the stomach, nausea and vomiting. Consentaneous with the dyspeptic symptoms, protracted and easily-excited paroxysms of palpitations of the heart supervened. These two symptoms became much more tolerable in a few weeks, but did not entirely subside. The functional irregularity of the heart was considered to be associated as an effect with the stomach derangement. Toward the latter part of his sickness, Dr. B. thought his heart was structurally diseased. There was no febrile movement of any consequence during the disease. Emaciation and debility, with drooping spirits, induced him to take a trip to the State of New York for his health, expecting to visit and spend some time at some of the favorite eastern watering places; but, after remaining with his friends for several weeks without benefit, he returned to the west. He continued to suffer from indigestion, palpitation, increasing emaciation and debility, without any other marked symptoms, until about two weeks before his death, when the left lower extremity became painful and swollen, and in a short time assumed an appearance resembling phlegmasia dolens. Cough and bloody expectoration began about a week before his death. The cough was very annoying, and often occurred in lengthened paroxysms, but

more frequently a mouthful of almost pure blood was thrown up without much effort. His condition, when I saw him, was represented by the following array of symptoms, namely: general but moderate oedema, greatest in the lower extremities, particularly the left; surface quite perceptibly icteroid; temperature natural; breathing rapid, but not very laborious; frequent cough, and copious expectoration; pulse about 120 in the minute, feeble and intermittent; the intermission consisted in the omission of one pulsation about every twenty beats; otherwise, the pulse was regular. The pulsation of the heart could not be felt externally by the hand. Abdomen considerably enlarged by contained fluid. The liver was also greatly enlarged, extending across the epigastric into the left hypochondriac region, and down into the umbilical and lumbar region of the right side. His mind was quite clear, and he manifested an intelligent interest in the microscopic and chemical examinations. Upon auscultating the chest, the whole right lung, and much of the lower portion of the left, gave out the subcrepitant rale, indicating the occupancy of the small bronchia by the blood which was constantly being thrown from the lungs. The sounds of the heart were very feeble and distant, but not abnormal in quality, so far as I could discern with the imperfect examination I could make at the time. The urine was very dark colored, resembling porter, and so thick as to retain the bubbles of air for some time. Heat and nitric acid both showed a moderate quantity of albumen, while the microscope revealed blood and pus corpuscles. He remained in this condition, except a gradually increased embarrassment of respiration and prostration, until 17th, when he died. Post-mortem on the 18th. All the serous cavities of the body contained a large quantity of serum. The tunica albuginea testis and scrotum were also distended with serum. The pericardium was very much distended, which accounts for the feeble sounds of the heart. The right lung was engorged from top to bottom with thick tenacious bloody mucous, and about two-thirds of the lower portion of the left was in the same condition. Their structure did not seem to have undergone any change. The heart was hypertrophied and dilated until, with the blood it

contained, it weighed forty-three ounces. After being evacuated and washed clean, its weight was twenty-seven ounces. It was dilated until it contained six ounces of blood. The valves, auriculo-ventricular and ventriculo-arterial, were healthy, and every way natural as to size. The stomach and intestinal canal throughout were quite sound. The liver was very much enlarged, but, it was believed, from congestion. The gall bladder was largely distended, and its neighborhood was stained by, while the cellular tissue of the whole body was infiltrated with, bile. The most remarkable changes, however, in the abdominal organs were discovered in the kidneys. The left was hypertrophied to what seemed about one-third more than natural size, but not otherwise altered; the right was structurally changed. The pelvis was larger than ordinary, and at its lower end pouched down to the size of a small hen's egg, in which was contained dark pus, blood and urine. The contents of the organ, although of urinous odor, had very little the appearance of that fluid in other respects. The cortical substance was very much thinned, and in parts of the walls completely replaced by a hard condensed fibrous membrane, while all of this structure was more than ordinarily condensed, and showed in several places, under a magnifier, irregular depositions of fibrin. The tubular structure was obliterated entirely in many places, and there were carneous agglomerations all over it. The immediate cause of Dr. Bacon's death was, doubtless, the extensive congestion of the lungs. Many of the symptoms that occurred during the progress of the disease were directly referable to the affection of the kidneys, and a matter of no small importance would be decided if we could compute the whole of the damage arising from this source. My *opinion*, and I think it is borne out by the present state of pathological knowledge, is, that the kidneys were the first organs diseased, and that all the other phenomena are directly or indirectly attributable to their functional improprieties. The essential condition of the kidneys, to the production of all the symptoms which constitute Bright's disease, or albuminuria, is an obstruction of a part or a whole of capillary tissues in which secretion takes place, so as to prevent them from per-

forming their secretory functions, and cause the effusion of albumen from the blood. This may be and often is effected by fibrinous or albuminous infiltration. The deposit or infiltration may be the result of a well-marked chronic inflammation, as I think it was in the case of Dr. B., or a solid effusion from a less active condition of the circulation. The succession of symptoms, I think, bears me out in my assertion as to the agency of the kidneys. The Doctor spoke of having observed an evanescent oedema, but distinctly marked, before he was attacked with the train of symptoms which continued until his death. Next in order were the nervous system, sun-stroke, followed by partial paralysis. So soon as he recovered from the urgent head symptoms, painful dyspepsia and palpitation of the heart followed, and continued with varying gravity until the termination of the case in death. This is just the course we might expect to observe in cases of albuminuria. Heart affection is almost if not quite an essential element of Bright's disease; and the weight of authority inclines to the opinion, that it is one of the *effects* of albuminuria. Be this as it may, we have all the anatomical alterations and symptomatic manifestations necessary to make a complete case of this fatal malady. One rather singular circumstance is, that he had never complained of pain in the region of the kidneys, notwithstanding the amount of disease found in them after death. This unfortunate combination of organic disease rendered all but palliative treatment entirely profitless; and if the precise condition of his entire organism could have been disclosed months before his decease, the only result that did not obtain in the case, would have been an adverse and hopeless prognosis. The medical gentlemen, who attended him during his long illness with the devotion of true and worthy professional brethren, Drs. Cory, Bullock and Evans, of Waukegan, acting often in the capacity of watchers and nurses, have afforded to the profession an example worthy not only of all commendation but of imitation, and will be remembered with gratitude by the family and friends.

W. H. B.

## BOOK NOTICES.

**THE PRINCIPLES AND PRACTICE OF OBSTETRICS,** including the Treatment of Chronic Inflammation of the Uterus, considered as a Frequent Cause of Abortion. By HENRY MILLER, M. D., Prof. of Obstetric Medicine in the Medical Department of the University of Louisville. Blanchard & Lea, Philadelphia, 1858.

We like this work of Prof. Miller's, for the independent and manly originality of matter and expression. It contains more than an ordinary amount of originality for books of the present day. We like it all the better, because it is Western. It is a direct assurance to the western student, that the hot-beds of vice in Europe are not the only localities in which uterine infirmities may be studied with profit to the profession; and what is of equal importance, that the treatment for one latitude is applicable to that of another in this respect. Dr. Miller is the acknowledged and decided champion of the Bennet pathology of the uterus and its appendages on this side of the Atlantic. His views command the respect of all who have read them; they bear the impress of independent research, and should be read by every western physician with pride. While it could not be expected that we should subscribe to everything we find in Prof. Miller's book, we most heartily recommend it as one of the most reliable for consultation on the subjects of which it treats with which we are acquainted.

We should be glad to particularize some of the best points of our author, if space would permit, but it would require too much room, and it is not an easy matter to decide between selections where there are so many that would be very interesting.

**A PRACTICAL TREATISE ON DISEASES OF CHILDREN.** By J. FORSYTH MEIGS, M.D. Third Edition. Lindsay & Blackiston: Philadelphia, 1858.

The appearance of the third edition of Dr. Meigs' work in ten years is a pretty good evidence of the approval it has received. There is sufficient substance in the work to live still many years, under the judicious guidance of its indefatigable author. Many more sickly offspring have grown into such

strength and lively robustness under his care, as to give promise of unusual longevity. Although not intended to be a complete work on diseases of children, it *has its own excellencies*. The chapter of entero-colites is very interesting, and we think equal, if not superior to, anything on the same subject within our knowledge. His success as an author is placed beyond question, by the appearance of this beautiful and solid edition of his work on children.

THE PHYSICIAN'S HANDBOOK OF PRACTICE AND MEMORANDA FOR 1858; containing a Classified List of Diseases, with their Symptoms, Complications, etc.; an Alphabetical List of Remedial Agents, with their Properties, Preparations and Doses; a Classified List of Poisons, with their Symptoms and Antidotes; Examples of Extemporaneous Prescriptions, and Abbreviations of the Terms Used in Prescribing, with their Translations into English; to which is added a Record for Daily Practice. Prepared for the Names of Thirty or Sixty Patients, and other Memoranda. Second Edition. By WM. ELMER, M.D., and LEVI REUBEN, M.D. New York: Stringer & Townsend, No. 222 Broadway. 1858.

Such is the title-page in full of a neat little book which we have received from the authors. It is proposed another year to alter the arrangement in several particulars, one of which is to furnish practitioners with a key, by the aid of which they may find anything they wish in the various periodicals of the day. There are certainly several important items of interest to the busy practitioner in this little volume. The objection we have to it is, that it contains too much for a pocketbook, and too little for a combined case and day book. The man who is engaged in active locomotion likes to rid himself of every weight and hindrance, and even Lindsay & Blackiston's visiting list is getting rather cumbersome. We believe that the authors of the handbook might make a combined day and case book that would give room for legible record of the pecuniary and professional interest we have in our patients, that would better supply the wants of the profession than can be done by their present production. Anything we carry in our pocket we want of small space and ponderosity. But if a book is to lie in our desk, for daily record and reference, we have less concern for its size and weight than for its correctness, fulness and completeness. While we feel constrained to make the above observations, partly in reference to the handbook,

we are free to recommend it as an excellent and comprehensive little remembrancer and daily record, to such as are willing to carry a very light package about them constantly.

We have only space to mention the reception of an "Introductory Address delivered before the Class of the Medical Department of the Iowa University, at the opening of the Course of Lectures for 1857-8, by A. T. Hudson, M.D., Prof. of Theory and Practice of Medicine."

"The Fifth Annual Report of the Surgeons of the New York Ophthalmic Hospital, with an Address by Mark Stephenson, M. D. (one of its Surgeons) to the Graduating Class." This institution is doing good service toward exterminating quackery, by educating regular physicians more thoroughly in this much-neglected specialty.

"First Annual Report of the Trustees and Superintendent of the Ohio Asylum for the Education of Idiotic and Imbecile Youth, to the Fifty-Third General Assembly, for the year 1857." This institution is situated at Columbus, Ohio, and is under the superintendence of R. J. Patterson, M.D., formerly of the Indiana Insane Asylum. We know of no man who is more capable of the duties of that difficult position than Dr. R. J. Patterson.

"Pliny Earle's very clear, philosophical and highly-erudite Medical Opinion in the Parish Will Case," is received.

We have also received the "Parish Will Case before the Surrogate of the City of New York," with the "Medical Opinions upon the Mental Capacity of Mr. Parish, by John Watson, M.D., D. T. Brown, M.D., M. H. Rauney, M.D., Pliny Earle, M.D., Luther V. Bell, M. D., L.L.D., J. Ray, M.D., Sir Henry Holland, Bart., M.D., F.R.S." A portly volume of 573 pages. Although so formidable in appearance as to discourage the timid from undertaking its perusal, the time thus spent would be well repaid by the valuable information contained in it.

## PROCEEDINGS OF MEDICAL SOCIETIES.

MEETING OF THE HENRY COUNTY MEDICAL SOCIETY, HELD IN  
CAMBRIDGE, HENRY CO., DEC. 1, 1857.

President Holton in the chair.

Minutes of the previous meeting, held in Geneseo, Sept. 1st, 1857, were read and approved.

On motion of Dr. R. J. Stough, a vote of thanks was paid Dr. A. A. Dunn for his address made at Geneseo at our last meeting.

Committee appointed to obtain meteorological instruments reported progress.

On motion of Dr. M. J. Lyman, report was accepted, and committee continued.

On motion of Dr. R. J. Stough, an equal assessment will be made on the members of the society, to pay for the aforesaid instruments.

Dr. Swansey, of Tiskilwa, was proposed by Dr. N. Holton, and on motion, Dr. Swansey will be admitted by complying with the regulations of our constitution and by-laws.

Essays and reports of cases.

Dr. L. P. Dimmitt reported several cases of cutaneous diseases, treated by the following formulae:

R,	Lard oil,	ʒ vi.
	Oil turpentine,	ʒij.
	Acid sul.,	ʒi. M.

Dr. R. J. Stough read a report of a case of dysentery, treated principally by the cannabis indica (successfully) by Dr. Talcott.

Dr. M. J. Lyman on chronic pleuritis, treated by veratrum viride, following which was a lengthy discussion upon the use and abuse of veratrum.

Dr. R. J. Stough read an essay upon the use of belladonna as a prophylactic in scarlatina.

Dr. E. Pomeroy read an essay, entitled "Some thoughts

relative to the medical profession," confined chiefly to medical progress.

Dr. T. D. Fitch reported a case of laceration of the neck and inversion of the uterus—reduction and recovery.

Other cases were reported verbally, and discussed.

On motion, the address of Dr. N. Holton, to be delivered at the evening session, was deferred, on account of the inclemency of the weather, until our next regular meeting.

On motion of Dr. R. J. Stough, society adjourned, to meet in Sheffield, Bureau Co., on first Tuesday in March, 1858.

N. HOLTON, *President.*

T. D. FITCH, *Secretary.*

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## EDITORIAL.

### MEDICAL EDUCATION.

At the last annual meeting of the American Medical Association, a special committee was appointed, with instructions to report, at the coming meeting in May next, a more complete and judicious plan of instruction to be adopted by the medical colleges of our country. This is a subject of much importance, and we had hoped to see a free interchange of views concerning it through the medical journals, before it should be again brought up for formal action in the Association.

For many years past, it has been almost universally acknowledged, that the system of instruction usually pursued by the medical colleges of our country is very defective.

1st. The usual term of *four months* is too short to allow of more than a partial course on any one branch, if all the important departments of medical science are embraced in the curriculum.

2d. The system permits no natural order or succession of topics for study on the part of the student, but compels him to listen to the same incomplete course on all the branches at each successive college term.

Hence, the student who has scarcely proceeded far enough in his medical studies to become familiar with the long bones of the skeleton, is placed in the same class, and made to listen to the same details in practical medicine, surgery and obstetrics, with him who had already studied diligently three or four years.

3d. The anxiety of each faculty to include as much as possible of the various departments of medical science in the college term, has caused the number of lectures each day to be so great, as to leave a very inadequate amount of time for reading, dissections, and clinical study.

To remedy or mitigate these defects, the American Medical Association, in the early part of its history, strongly recommended the extension of the college terms to six months. A little reflection, however, will satisfy every intelligent physician that a *simple* extension of the lecture term would constitute only a very imperfect remedy. If the additional time was used for extending the several courses of lectures, it would leave the second and third evils wholly unmitigated. On the other hand, if the number of lectures per day were reduced in proportion to the increased length of term, so as to remedy the third evil, the first and second would remain in full force. To effect a real reform in medical college instruction, to realize a practical avoidance of the evils and defects of the present system, four things are necessary, viz :

1st. Such a revision of the several departments or chairs as will permit them to be divided into two groups—the first embracing all those branches usually considered elementary, and the second, all those more directly practical.

2d. Such an extension of the collegiate year as will allow two full lecture terms; the first, for the elementary group of branches; and the second, for the practical—thus enabling the student in attending two terms to hear, instead of a *repetition* of one imperfect course, a full review of all the departments in their natural order of succession.

3d. Such a limit to the number of lectures per day as will permit each student to give adequate time to dissections and clinical instruction.

4th. Access to the wards of a well regulated hospital must

constitute a necessary appendage to every medical college; and attendance on, at least, one course of clinical instruction a requisite for graduation.

To carry these views into successful and full practical operation, we would suggest the following definite plan of college organization, and ask for it the thoughtful consideration, not only of the special committee of the American Medical Association, but of the whole profession:

1st. Make the full collegiate year embrace a regular course of instruction in the following departments, viz:

- 1st. Descriptive anatomy.
- 2d. Elementary and inorganic chemistry.
- 3d. Human histology and physiology.
- 4th. Materia medica.
- 5th. General pathology and public hygiene.
- 6th. Regional and surgical anatomy.
- 7th. Organic chemistry and toxicology.
- 8th. Practical surgery.
- 9th. Practical medicine.
- 10th. Obstetrics and diseases of women.

We would group the first five of these departments together to constitute an elementary course or term, and the last five to constitute the practical course.

2d. Let each collegiate year be divided into two terms; one called the *elementary*, and the other the *practical term*. The first may commence on the first Monday in March, and continue until the last Wednesday in June. Besides embracing a full course of lectures on each of the five branches named, it should present ample facilities for the practical study of anatomy by dissections, and a course of clinical instruction in the hospitals, devoted almost exclusively to medical and surgical pathology and diagnosis.

The second term should commence on the first Monday in October, and continue until the third Wednesday in February, at which time the annual commencement for conferring degrees should be held. This term should embrace, in addition to the full course of lectures on the five branches assigned to it, also abundant material for dissections, and a full hospital clinical

course devoted more directly to the details of practical medicine and surgery.

3d. No student should be eligible to graduation until he had studied medicine and surgery three years, and attended, at least, one full collegiate year, embracing the two terms just described in their proper order. But instead of attending both college terms the same year, each student should be encouraged to attend the elementary term during the first eighteen months of study, and the practical term at the end of the second eighteen months. Of course, such students as possessed the requisite means could attend a repetition of one or both terms each year during their studies.

Such is a brief statement of the system of college instruction which we would propose; and we are confident that its adoption by all the leading colleges of the country would very speedily result in great practical benefit to the profession. It would immediately render the study of medicine more systematic or methodical, by confining the attention of the student during the first half of his studies to a smaller number of branches, and those wholly of an elementary character, but essential to qualify him to advance understandingly to the second series during the last half of his period of study. It would practically separate the first from the second course students; in other words, the new beginners from the advanced scholars, and furnish a complete college term adapted to each. If a teacher in any of our ordinary institutions of learning should enter the school-room, and place the scholars just beginning to study arithmetic in the same class with those already advanced in the higher branches of mathematics, he would be declared *non compos mentis*, and speedily dismissed. And yet, under our present system of medical college instruction, we are continually placing the student who has scarcely become familiar with the outlines of the naked skeleton side by side with those who have already diligently pursued their studies three years, and compelling both to listen, day by day, to lectures on the same variety of subjects. By the proposed plan, each student would be obliged to become familiar with descriptive anatomy, histology, etc., before proceeding to surgical anatomy and practical surgery. So to, a

full course on physiology, *materia medica*, and general pathology, would precede the study of practical medicine and obstetrics. It would thus not only render the system of medical study more methodical and rational, but the field actually covered by college instruction would be greatly enlarged. It is well known that under the present system, the professors of chemistry seldom progress beyond the elementary and inorganic part of their science before they are arrested by the *end* of the term. If the teachers of institutes, or physiology and general pathology, devote any adequate attention in the first part of the college term to histology and the important developments of the microscope, they almost necessarily arrive at the end before their course is half completed. If *materia medica* and medical jurisprudence are connected in the same chair, the latter is either not reached at all, or only three or four of its more prominent topics hastily presented during the last days of the term. The courses on the several practical branches are scarcely more complete. Thus, if the professor of surgery commences his course with due attention to surgical anatomy and pathology, he uniformly ends it with one-third of the important surgical diseases and accidents untouched.

But in the proposed plan, by increasing the whole number of professorships, and thereby securing a further division of labor, and by making the two terms consecutive and continuous instead of repetitional, these defects are obviated, and the important topics of histology, organic chemistry, toxicology, surgical anatomy, etc., not only have a name in the college curriculum, but actually receive the consideration which their importance demand. But one of the most important advantages of the proposed change relates to clinical teaching.

By restricting the number of lectures per day to five, sufficient time would be left to enable the student to devote one hour each day to attendance at the hospital; and if a proper understanding, or concert of action, existed between the hospital boards and the college faculties, it would be easy to so divide and classify the students that a limited number could visit some department of the hospitals each day. During the first term, their attention could be directed principally to the

chemical and microscopic examination of morbid secretions, deposits, growths, etc.; to the individual practice of auscultation and percussion; and all those manipulations necessary to establish the habit of thoroughly investigating and correctly diagnosticating disease. Such a hospital course, in connection with the courses on physiology and general pathology in the college, would be of great advantage to the student, and properly prepare him for the details of therapeutics and operative surgery in the hospital during the second term in the college.

While the proposed system thus reduces the study of medicine to a systematic or methodical arrangement, practically enlarges the curriculum of college instruction to a very important degree, and renders more comprehensive and systematic the clinical teaching, it neither requires the student to remain materially longer in college at any one time, or to spend a larger aggregate amount of money during his period of study. The average aggregate length of the college terms under the present system does not exceed four months. This duplicated gives eight months as the aggregate time of college instruction required for obtaining a degree. While the system that we propose, instead of requiring a *duplicate* term of four months, exacts a primary term of four calendar months and a practical term of nearly five months, making an aggregate time of nearly nine months' attendance on the colleges.

But the increased expense required by the additional month would be offset by the less number of professors' tickets to be taken in each term or division of the collegiate year. This is an important item; for the fact cannot be denied, that nine-tenths of the medical students of our country are possessed of very limited pecuniary means. And whatever system of college instruction is devised, that does not regard this fact, will not only fail in practical efficiency, but will cause hundreds to enter upon the practice of medicine annually without any attendance upon college instruction during their pupilage.

Neither does the proposed plan *necessarily* require the schools to support a larger number of professors. The two annual terms being consecutive, and in some degree continuous, the

same professor may properly and in some cases advantageously hold a chair in each term. This would be particularly the case with the departments of elementary chemistry in the first, and organic chemistry and toxicology in the second term. So also with general pathology in one, and practical medicine in the other; and descriptive anatomy, with regional and surgical anatomy. From much reflection during the last fifteen years, and nine years' active experience in teaching both in the college and the hospital, we are satisfied that the proposed plan will bear the most rigid scrutiny. And we hope the time has come when members of the profession, both in and out of the schools, will speak out freely, plainly and candidly on the whole subject.

RUSH MEDICAL COLLEGE—ANNUAL COMMENCEMENT.

The fifteenth annual commencement in Rush Medical College was held in the College Hall, on the afternoon of the 17th of February. The hall was well filled at the hour appointed; and after the opening prayer by the Rev. Mr. Rice, several members of the graduating class were called upon to read their inaugural thesis.

The degree of Doctor of Medicine was then conferred on the following gentlemen, viz :

Chas. J. Keegan,	S. B. Davis,
D. B. Montgomery,	J. T. Pearman,
Owen Wright,	J. B. Wilson,
O. B. Ormsby,	J. B. Earl,
Benj. F. Swofford,	W. B. Harl,
J. L. Potter,	Wm. H. Rockwell,
L. B. Brown,	Benj. Durham,
Freeman Clark,	J. S. Pashley,
L. Brookhart,	John O'Connors,
A. J. Miller,	J. Slack,
T. C. Jennings,	Thos. Winston,
B. F. Ross,	P. Corcoran,
B. F. Keith,	C. N. Ellinwood,
Eli York,	J. N. Green,
J. D. Gray,	Allen Heavenridge,
L. D. Smedley,	Wm. Somers,
J. R. Webster,	R. C. Black,
C. V. Snow,	Willis L. May.

The honorary degree of Doctor of Medicine was conferred on Dr. Solomon Davis, of Columbus, Indiana, and Dr. Waldo W. Lake, of Milwaukee, Wisconsin.

The ceremony of conferring the degrees being concluded, a well written and very interesting valedictory address to the graduates was delivered by Prof. W. H. Byford. It was chiefly devoted to the elucidation of those ethical rules and principles which should govern the practitioner in all the relations of life. The positions taken were just; the illustrations happy; and the lessons inculcated impressive and salutary.

The ceremonies properly belonging to the public commencement having been concluded, the graduates and alumni of the college, together with the faculty and invited guests, retired to the museum room, where a collation had been prepared by Messrs. Anderson & Brother, and spent a couple of hours in the most agreeable and social manner. The free use of the bounties provided for the physical man, was interspersed with an equally free flow of wit, social hilarity, and intellectual enjoyment. At an early hour the company separated, feeling that the occasion would be remembered as a green spot in the diversified field of human life.

Thus closed another prosperous, and, we trust, profitable annual course of instruction in Rush Medical College. In looking over the names on the register, we find quite a number absent, who had intended to attend the course, but who were prevented by the financial embarrassment that swept like a pestilence over the country during the past autumn, and interposed a barrier in the way of the accomplishment of the plans and expectations of men in every relation of life. Still we had the average number of students and graduates, and their uniformly correct deportment and assiduous attention to instruction, both in the college and hospital, rendered the duties devolving on the faculty as pleasant as they were arduous.

DR. D. D. THOMPSON, OF OTTAWA, ILL.

Sometime last year, we published the substance of a communication from the Ottawa Medical Society, by which it

appeared that the above-named gentleman was expelled from the society for having embraced homœopathy. In a recent letter to us, he says :

" I am still practising medicine after the old fashion, and shall probably continue to, so long as I practise at all—my brief connection with that said *homœopath* to the contrary notwithstanding."

#### HONEY BEES AS DIURETIC.

PORLTAND, MICH., Nov. 16th, 1857.

I have used the decoction of the *Apis Mellifica* or Honey Bee in many cases of suppression of urine, during the last fifteen years, and in almost every case with success. I regard it as far superior to any other diuretic, and have very often given it after other diuretics have failed. I have never tried it in dropsy, and do not know what effect it would have (to give it for some length of time), still I think it would succeed when other means would fail. I have taken from eight to twelve honey bees and poured on them a pint of boiling water, and have given one table-spoonful of the decoction every five minutes; relief will very soon follow. This may not be new to others, but if it is not known, I think it deserves a trial.

I am very respectfully yours, etc.

M. B. BEERS.

*The British and Foreign Medico-Chirurgical Review, or Quarterly Journal of Practical Medicine and Surgery*, for January, 1858, was promptly on our table. Its contents are as varied, interesting and important as in any previous numbers.

*The North-American Medico-Chirurgical Review.* The January number of this very valuable periodical has not reached us.

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**THE COURSE WILL CONSIST—**

*First*—Dissections and Demonstrations in the Dissecting Room of the College during the months of March and April.

*Second*—Clinical Instruction in the Surgical Wards of the Mercy Hospital.

*Third*—Daily Examinations on the branches taught in the Medical Schools, illustrated by *Dissections, Pathological Specimens and Microscopic Demonstrations*.

*Fourth*—Microscopic Anatomy.

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The charge for Analyzing will be regulated by the following rules:

When the *quantity* of one substance is to be determined, the charge will be \$5

When the *quantity* of more than one substance is to be determined, the charge will be \$5 for the first determination, and \$3 for each subsequent one.

When the *presence* or *absence* only of one or more substances is to be determined, the charge will be one-third of the above rates, being \$1.67 for the first determination, and \$1 for each subsequent one.

From the above rules examinations for *poisons* are excluded, and will require a special understanding depending upon the nature of the case, etc.

## TO THE MEDICAL PROFESSION.

The subscribers would call the attention of physicians to the annexed list of Fluid Extracts, which we have been induced to prepare, from the difficulty of obtaining such preparations of a reliable character, and to obviate the great inconvenience of being dependent on distant manufacturers for articles of every day use by physicians.

By the process of percolation, carefully conducted, the crude material is completely exhausted of its medicinal virtues, and these, by subsequent evaporation, at a low temperature, are retained in their full original activity, and in a form highly concentrated, and exceedingly convenient for prescription.

We would respectfully invite physicians to make trial of the above, feeling confident that they will be found entirely reliable.

To those who prefer Tilden & Co.'s Extracts, we would say that we keep the usual assortment of their Solid and Fluid Extracts, and offer them at their prices. SARGENT & ILSLEY, Druggists, 140 Lake-street, Chicago.

**Extractum Aconiti Fluidum, One fluid drachm is equal to  $\frac{1}{2}$  a drachm of the crude material**

"	Aconitidis	"	"	"	"	"	"	"	"
"	Tuberose,	"	"	"	"	"	"	"	"
"	Buchu,	"	"	"	"	"	"	"	"
"	Belladonnae,	"	"	"	"	"	"	"	"
"	Cinchonae,	"	"	"	"	"	"	"	"
"	(Calisaya),	"	"	"	"	"	"	"	"
"	Colombe,	"	"	"	"	"	"	"	"
"	Conii,	"	"	"	"	"	"	"	"
"	Clinicifuga,	"	"	"	"	1	"	"	"
"	Cubeba, U. S.	"	"	"	"	"	ounce	"	"
"	Ergotis	"	"	"	"	2	scruples	"	"
"	Galla,	"	"	"	"	$\frac{1}{2}$	a drachm	"	"
"	Gentianæ,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	Hyoscyami,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	Lobelia,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	Opii,	"	"	"	"	about 5	grains	"	"
"	Pareira Brava	"	"	"	"	$\frac{1}{2}$	a drachm	"	"
"	Piperis Nig.,	"	"	"	"	2	ounces	"	"
"	U. S.,	"	"	"	"	$\frac{1}{2}$	a drachm	"	"
"	Pruni Virg.	"	"	"	"	$\frac{1}{2}$	"	"	"
"	Rhei, U. S.,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	" et Senna,	"	"	"	"	45	grs. Senna	"	"
"						15	grs. Rhubarb.	"	"
"	Sanguinariae	"	"	"	"	$\frac{1}{2}$	a drachm	"	"
"	Serpentariae,	"	"	"	"	"	"	"	"
"	Scutellariae,	"	"	"	"	"	"	"	"
"	Sarsaparillæ,	"	"	"	"	"	"	"	"
"	U. S.,	"	"	"	"	1	"	"	"
"	Senna, U. S.,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	" et Spigelii,	"	"	"	"	30	grs. Pink-root,	"	"
"	U. S.,	"	"	"	"	15	grs. Senna,	"	"
"	Stillingiae,	"	"	"	"	$\frac{1}{2}$	a drachm	"	"
"	Taraxaci,	"	"	"	"	$\frac{1}{2}$	"	"	"
"	Valerianæ, U. S.	"	"	"	"	$\frac{1}{2}$	"	"	"

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Ampelopsis,	Ampelopsis Quinque,	\$1.50	Rumin,	Rumex Crispus,	\$0.75
Alnuin,	Alnus Serrulata,	1.00	Sanguinarin,	Sanguinaria Canadensis	0.75
Apocynin,	Apocynum Cannabimum,	2.00	Scutellarin,	Scutellaria Lateriflora,	1.50
Asclepin,	Asclepias Tuberosa,	1.50	Senecin,	Senecio Gracilis,	1.50
Baptisin,	Baptisia Tinctoria,	1.00	Stillingin,	Stillingia Sylvatica,	1.25
Caulophylin,	Caulophyllum Thalict.,	0.75	Strychnin,	Strychnos Nux Vomica,	3.00
Cerasin,	Cerasus Virginiana,	1.50	Trillini,	Trillium Pendulum,	1.00
Chelonin,	Chelone Glabra,	1.25	Veratrin,	Veratrum Viride,	1.50
Cornin,	Cornus Florida,	1.00	Viburin,	Viburnum Oxycoccus,	1.50
Corydalin,	Corydalis Formosa,	4.00			
Cypripedin,	Cypripedium Pubescens,	1.00			
Digitalin,	Digitalis Purpur.	1.50			
Euonymin,	Euonymus Americanus,	1.50	Con. Tinc. Apocynum Andro.		\$1.00
Euphorbin,	Euphorbia Corolata,	1.50	" " Chelone Glab.		0.50
Eupatorin,	Eupatorium Perfolia,	1.00	" " Digitalis Purp.		0.50
(Perfo.)			" " Euonymus Amer.		0.50
Eupatorin,	Eupatorium Purpureum,	1.50	" " Eupatorium Purp.		0.75
(Purpu.)			" " Gossypium Herb.		1.00
Gelsemin,	Gelsemium Semper.,	2.00	" " Rhus Glab.		0.50
Geranin,	Geranium Maculatum,	0.62	" " Scutellaria Later.		0.50
Helonin,	Helonias Dioica,	1.75	" " Senecio Gracilis.		0.50
Hydrastin,	Hydrastis Canadensis,	1.25	" " Strychnos Nux Vomica.		1.00
Hyosciamin,	Hyoscyamus Niger,	2.50	" " Xanthoxylum Frax.		0.62
Irisin,	Iris Versicolor,	1.00	Con Comp. Stillingia Alterative,		1.00
Jalapin,	Ipomea Jalapa,	1.00	Xanthoxylin Pills,		0.50
Juglandin,	Juglans Cinercea,	0.75	Con. Tinc. Gelsemium Semp. 6 oz. bot.	1.00	per bot.
Leptandrin,	Leptandra Virginica,	0.75	" " Veratrum Viride, 4 oz. bot.	0.75	
Lupulin,	Humulus Lupulus,	1.00	Wine Tinc. Lobelia Infl., 6 oz. bot.	0.50	
Macrotin,	Macrotylus Racemos.	0.62			
Menispermin,	Menispernum Canad.,	1.00	Oil Lobelia,		1.50
Myricin,	Myrica Cerifera,	0.62	" " of Capsicum,		0.75
Phytolacain,	Phytolacca Decandra,	1.00	" " Erigeron,		0.50
Podophyllin,	Podophyllum Peltatum,	0.75	" " Populous,		0.55
Populin,	Populus Tremuloides,	0.50	" " Stillingia,		1.00
Prunin,	Prunus Virginianæ,	0.75	" " Zanthoxylum,		0.75
Rhusin,	Rhus Glabrum,	1.00	Oleo-Resin of Lobelia,		0.75

### Pocket Medicine Cases, filled with Concentrated Medicines.

No. 1.	20 vials, .....	\$5.00
" 2.	24 " .....	6.00
" 3.	28 " .....	7.00

An extra charge of ten cents per oz. will be made for medicines put up in half oz. vials.

All the articles manufactured at their Laboratory will bear the stamped label, "Prepared at the Laboratory of B. Keith & Co., NEW YORK." They will also be hermetically sealed and stamped "B. Keith & Co., Organic Chemists, N. Y."